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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/618,208
Filing Date: July 11, 2003
Appellant(s): PARKER ET AL.

Coe F. Miles, Ph.D., J.D. Reg. No. 38,559
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 3/19/2007 appealing from the Office action mailed 10/20/2006.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6070170	Friske et al.	10-1997
20030135478	Marshall et al.	5-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6070170 (hereinafter Frisk) in view of US 20030135478 (hereinafter Marshall).

As for claim 1 Frisk discloses: determining one or more portions of a target database that will be affected by the change command (See column 6 lines 5-9); creating one or more shadow portions of the determined one or more portions (See column 6 lines 25-27) swapping the one or more shadow portions for the determined

one or more portions (See column 6 lines 42-44) wherein the act of creating and changing occur before the act of executing and further wherein said database update method does not cause a user outage (See column 6 lines 60-65).

While Frisk does not differ substantially from the claimed invention the disclosure of receiving a database change command, to alter the structure of a target database, changing the one or more shadow portions in accordance with the change command, executing the change command against the target database is not necessarily explicit. Marshall however does disclose: receiving a database change command (See paragraph 0037 "transactions make changes to the database"); to alter the structure of a target database (See paragraph 0038) changing the one or more shadow portions in accordance with the change command (See paragraph 0038); executing the change command against the target database (See paragraph 0043);, wherein the act of creating and changing occur before the act of executing and further wherein said database update method does not cause a user outage. It would have been obvious to an artisan of ordinary skill in the pertinent art to have incorporated the teachings of Marshall into the system of Frisk. The modification would have been obvious because there is a desire to have a non-blocking database in order to minimize the unavailability of the database during updates and re-organizations (See Frisk column 2 lines 53-57).

As for claim 2 the rejection of claim 1 is incorporated, and further Frisk discloses: wherein the target database comprises a DB2 database (See column 4 lines 37-38).

As for claim 3 the rejection of claim 2 is incorporated, and further Frisk discloses: wherein the database change comprises an alter command (See column 6 lines 5-6 note: alter command modifies the index of the table that is = to a reorganize command).

As for claim 4 the rejection of claim 2 is incorporated, and further Frisk discloses: wherein the determined one or more portions comprise one or more partitions (See column 6 lines 5-9 note: there are pages; one for each portion).

As for claim 5 the rejection of claim 1 is incorporated and further Frisk discloses: wherein the act of creating comprises unloading the determined one or more portions into work files (See column 6 lines 7-10 note: portions are unloaded into flat files).

As for claim 6 the rejection of claim 5 is incorporated and further Frisk discloses: wherein the act of updating comprises updating the work files in accordance with change command into one or more shadow portions (See column 6 lines 8-12).

As for claim 7 the rejection of claim 1 is incorporated, and further Frisk discloses: wherein the act of updating further comprises updating the one or more shadow portions to incorporate data content changes in the target database occurring since said act of receiving and before said act of executing (See column 6 lines 35-37).

As for claim 8 the rejection of claim 7 is incorporated, and further Frisk discloses: wherein target database log files are used to drive said act of updating the one or more shadow portions to incorporate data content changes in the target database occurring since said act of receiving and before said act of executing (See column 6 lines 33-40).

As for claim 9 the rejection of claim 1 is incorporated, and further Frisk discloses: establishing a lock on the target database after said act of executing and before said act of swapping (See column 3 lines 25-30).

As for claim 10 the rejection of claim 9 is incorporated, and further Frisk discloses: removing a restricted state status from at least one of the determined one or more portions resulting from the act of executing, said act of removing occurring before the act of swapping (See column 7 lines 60-65).

As for claim 11 the rejection of claim 10 is incorporated, and further Frisk discloses: wherein the act of removing is performed after the act of establishing (See column 8 lines 4-9).

As for claim 12 the rejection of claim 1 is incorporated, and further Marshall discloses: committing the change command, said act of committing to be performed before the act of swapping (See paragraph 0037).

Claims 13-24 are program storage device claims corresponding to the database method claims 1-12 respectively, and are thus rejected for the same reasons as set forth in the rejection of claims 1-12..

Claims 25-27 are system claims corresponding to the database method claims 1-3 respectively, and are thus rejected for the same reasons as set forth in the rejection of claims 1-3.

As for claim 28 the rejection of claim 25 is incorporated, and further Frisk discloses: further Frisk discloses: wherein the instructions to create comprise instructions to unload the determined one or more portions into work files (See column 6 lines 7-10 note: portions are unloaded into flat files) and change the work files in accordance with the change command into one or more shadow partitions (See column 6 lines 34-37).

Claims 29-34 are database system claims corresponding to the database method claims 7-12 respectively and are thus rejected for the same reasons as set forth in the rejection of claims 7-12.

As for claim 35, the rejection of claim 25 is incorporated, and further Frisk discloses: wherein the storage device comprises one or more direct access storage devices (See column 5 lines 17-22).

As for claim 36 the rejection of claim 35 is incorporated, and further Marshall discloses: wherein the one or more direct access storage devices are operatively coupled to the computer unit by a computer network (See paragraph 0035).

As for claim 37 the rejection of claim 36 is incorporated, and further Marshall discloses: wherein the computer network comprises the Internet (See paragraph 0034).

As for claim 38 the rejection of claim 36 is incorporated, and further Marshall discloses: wherein the computer network comprises an Intranet (See paragraph 0034 note the lans, and other local setups).

(10) Response to Argument

(Argument): Applicant essentially makes 1 argument on appeal, applicant argues that neither Frisk nor Marshall teach, describe or fairly suggest the limitation making structural changes to a database. Moreover, since this limitation is contained in all of the independent claims, applicant applies this argument to all of the claims in the instant application. Applicant supports his position by stating that Frisk is directed towards a method of online reorganization of data contained in a database. Applicant also states that Marshall allows for reorganization of the data contained in a database. Consequently, applicant argues that since Frisk and Marshall are solely directed to reorganization of data and not the structure of the database there is no teaching of altering a databases structure.

In response to applicant's argument examiner respectfully submits that the rejection of the claimed invention is proper based on the combination of Frisk and Marshall because the cited references due in fact disclose making structural changes to a database. While applicant's assertions about the subject matter disclosed in Frisk and Marshall are not incorrect, the assertions are limited to the exemplary embodiment of Frisk and Marshall and therefore do not take made into account disclosures which are implicit (See Frisk column 9 lines 31-40 and Marshall paragraph 0278). Examiner makes reference to MPEP 2144.01 - Implicit Disclosure "[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the

reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.” In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968). Paragraph 2 of applicant’s specification distinguishes between objects that are data (data objects and index objects) and system catalogs or data dictionaries that manage the objects. Applicant has admitted that the references disclose modifying data objects. However Frisk column 2 lines 5-10, and Frisk column 7 lines 55-63 explicitly state that the invention is meant to include data indexes as well as the data itself. Moreover Frisk discloses that databases also comprise database dictionaries (See column 9 lines 20-21). When changes are made the dictionaries need to be rebuilt (See column 9 lines 22-26). Data dictionaries comprise the structure of the database (in this case how to decompress) and therefore fit the definition of a schema since it describes the data in the database (See specification as filed at ¶ 2). Marshall discloses reorganization reclaims unusable space and paragraph 0148 discloses that once the unused portion is reclaimed and changes to the data have occurred the index still needs to be updated and rebuilt. Accordingly the combination of Frisk and Marshall actually disclose every type change disclosed in paragraph 2.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

Conclusion

Claims 1-38 are properly rejected under 103(a) because the combination of Frisk and Marshall disclose making structural and data changes to a database while not causing a user outage. For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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